

**FEDERAL MINE SAFETY AND HEALTH REVIEW COMMISSION**

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July 10, 2008

POWDER RIVER COAL, LLC,	:	CONTEST PROCEEDING
Contestant	:	
	:	Docket No. WEST 2007-100-R
	:	Citation No. 7610237; 10/24/2006
v.	:	
	:	North Antelope Rochelle Mine
	:	Id. No. 48-01353
SECRETARY OF LABOR,	:	
MINE SAFETY AND HEALTH	:	
ADMINISTRATION (MSHA),	:	
Respondent	:	
	:	
	:	
SECRETARY OF LABOR,	:	CIVIL PENALTY PROCEEDING
MINE SAFETY AND HEALTH	:	
ADMINISTRATION (MSHA),	:	Docket No. WEST 2007-300
Petitioner	:	A.C. No. 48-01353-110134
	:	
v.	:	
	:	North Antelope Rochelle Mine
POWDER RIVER COAL, LLC,	:	
Respondent	:	

**DECISION**

Appearances: R. Henry Moore, Esq., Jackson Kelly PLLC, Pittsburgh, Pennsylvania, for Powder River Coal, LLC;  
Gregory W. Tronson, Esq., Office of the Solicitor, U.S. Department of Labor, Denver, Colorado, for the Secretary of Labor.

Before: Judge Manning

These cases are before me on a notice of contest filed by Powder River Coal, LLC (“Powder River”) and a petition for assessment of civil penalty filed by the Secretary of Labor, acting through the Mine Safety and Health Administration (“MSHA”) pursuant to sections 105 and 110 of the Federal Mine Safety and Health Act of 1977, 30 U.S.C. §§ 815 and 820 (the “Mine Act”). Powder River contested Citation No. 7610237 issued under section 104(a) of the Mine Act. An evidentiary hearing was held in Denver, Colorado. The parties introduced testimony and documentary evidence and filed post-hearing briefs.

## I. THE CITATION

Powder River operates the North Antelope Rochelle Mine, a large open-pit coal mine, in Campbell County, Wyoming. MSHA Inspector Scott Markve sampled for respirable dust on several occasions over a period of 19 months. Based on this sampling, Inspector Markve issued Citation No. 7610237 on October 24, 2006, alleging a violation of 30 C.F.R. § 71.100 as follows:

The average concentration of respirable dust in the working environment of the designated work position was 3.698 mg/m<sup>3</sup>, which exceeds the 2.00 mg/m<sup>3</sup> standard. The finding was based on the results of three valid samples collected by MSHA.

The citation was modified on November 28, 2007, to read as follows:

The average concentration of respirable dust in the working environment of the designated work position was 2.984 mg/m<sup>3</sup>, which exceeds the 2.00 mg/m<sup>3</sup> standard. The finding was based on the results of four valid samples collected by MSHA.

This modification was made because one valid sample was “inadvertently left out of the average concentration.”

The cited health standard provides, in relevant part: “Each operator shall continuously maintain the average concentration of respirable dust in the mine atmosphere during each shift to which each miner in the active workings is exposed at or below 2.0 milligrams of respirable dust per cubic meter of air.” The designated work position that Inspector Markve cited was position 306 (non-shop welder), which includes all surface welders who spend at least part of their time working outside of a welding shop.

## II. THE ISSUES

Powder River raised a number of defenses in this case, but its key argument is that a violation did not exist because the sampling results were seriously affected by welding fumes. It contends that much of the material deposited on the filter was not “respirable dust” but was metallic and non-metallic material from welding operations. Powder River also argues that the samples were not collected in compliance with section 71.205(b) or MSHA’s sampling protocols.

## III. BACKGROUND

Inspector Markve described the process used to obtain a respirable dust sample. He testified that a non-shop welder works in various locations at the mine, including the maintenance shop or out in the field. (Tr. 17-18). The North Antelope Rochelle Mine has two shops where welding takes place.

The sampling unit was worn by each miner in the breathing zone. (Tr. 24) The inspector explained the sampling procedure to the miner and started the pump. The miner was told that he must keep the intake hole open. The inspector also instructed each miner to alert him if he changed occupations so the sample could be adjusted if necessary. The mine operator selected the miner to be sampled based on the occupation requested by the inspector. (Tr. 36).

The inspector kept a control filter with him while the miner was wearing the sampling unit. The inspector kept the filter in his pocket and sent it to the lab along with the collected samples to determine the weight gain for the environment. (Tr. 37). When a sample had been collected for eight hours, the inspector removed the unit. The pump was then shut off, the filter removed, the filter was capped, and it was placed in a Ziploc bag. It was then taken back to the MSHA office and mailed along with the required documentation to MSHA's Pittsburgh laboratory to be analyzed. A card was sent along that identifies the filter as well as the initial weight and date of sample. The control filter was sent with the sample. After the lab analyzed the sample, the results were faxed to the Gillette MSHA office. If the results indicated a dust concentration of more than 2.0, additional sampling was performed.

The subject samples were taken on February 27, 2005, June 15, 2005, December 18, 2005, and September 26, 2006. The samples were taken outside the welding hood worn by the welders. MSHA performed an "elemental analysis" on the samples that were taken in February 2005 and December 2005. This elemental analysis measured the weight of metal particulates deposited on the filter from the welding fumes. This analysis was not capable of measuring non-metallic components contained in the welding fumes.

The Secretary has defined "respirable dust" in section 71.2(k) as "dust collected with a sampling device approved by the Secretary and the Secretary of Health and Human Services in accordance with part 74 (Coal Mine Dust Personal Sampler Units) of this title." 30 C.F.R. § 71.2(k). She defines "valid respirable dust sample" as "a respirable dust sample collected and submitted as required by this part and not voided by MSHA." 30 C.F.R. § 71.2(r). It is the Secretary's position that all particles collected by the sampling unit are "respirable dust" for purposes of section 71.100 because the sampling units used were approved by the Secretary.

Powder River argues that the samples taken by MSHA are invalid because they contained welding fumes. Any samples significantly affected by welding fumes do not accurately reflect the amount of respirable dust in the miner's breathing zone and should not be the basis for a citation issued under section 71.100. The evidence establishes that the samples taken on February 2005 and December 2005 were significantly affected by exposure to welding fumes and, as a consequence, it is likely that the other samples were similarly affected. At the request of Powder River, these two samples were tested for metallic elements. MSHA's laboratory analysis shows that much of the weight gain for these samples is attributable to metallic welding fumes. This laboratory analysis did not indicate the full impact of welding fumes on the filter because it only measured metallic elements and it did not measure other non-metallic components of welding fumes. Powder River contends that its argument is corroborated by the

fact that no citations were issued as a result of respirable dust sampling of non-welders at the mine. Although welders sometimes travel to other parts of the mine, they spend most of the time in the shops where exposure to respirable dust would be minimal.

#### IV. DISCUSSION WITH FINDINGS OF FACT AND CONCLUSIONS OF LAW

This case raises the issue whether all solid particles deposited on MSHA's dust sampling filter during welding operations can be considered to be respirable dust as that term is used in the Secretary's health regulations. Powder River contends that because the solid particles emitted as a result of welding are not dust, any respirable dust samples taken by MSHA which are seriously affected by welding fumes cannot be used to establish a violation of the health standard. Powder River presented the testimony of Professor Thomas A. Hall of the University of Oklahoma's College of Public Health and Stephen Laramore, the company's safety supervisor, to support its arguments. It also relies on published textbooks and materials issued by MSHA. The Secretary argues that all particles smaller than 10 microns in diameter collected on the sampling device are, by definition, respirable dust including particles deposited on the filter as a result of welding operations. The Secretary relies on the testimony of Robert A. Thaxton, who is the Acting Chief of MSHA's Division of Health for Coal Mine Safety and Health.

The Secretary contends that the language of the health standard is clear on its face. Subject to the size limitation, any particles captured on the filter are respirable dust. She also argues that, even if the language is ambiguous, the Secretary's position is reasonable and entitled to deference. The purpose of the health standard is to prevent all occupation-related lung diseases. She notes that the Commission has recognized that she has broad authority to define what constitutes an overexposure to respirable dust. (*See, Consolidation Coal Co.*, 8 FMSHRC 890, 901 (June 1986)).

As the Commission recently stated in *The American Coal Company*, 29 FMSHRC 941, 946 (Dec. 2007):

Where the language of a regulatory provision is clear, the terms of that provision must be enforced as they are written unless the regulator clearly intended the words to have a different meaning or unless such a meaning would lead to absurd results. *Dyer v. United States*, 832 F.2d 1062, 1066 (9th Cir. 1987) (citations omitted); *see also Utah Power & Light Co.*, 11 FMSHRC 1926, 1930 (October 1989) (citations omitted); *Consolidation Coal Co.*, 15 FMSHRC 1555, 1557 (August 1993). If, however, a standard is ambiguous, courts have deferred to the Secretary's reasonable interpretation of her regulation. *See Energy West Mining Co. v. FMSHRC*, 40 F.3d 457, 463 (D.C. Cir. 1994); *accord Sec'y of Labor v. Western Fuels-Utah, Inc.*, 900 F.2d 318,

321 (D.C. Cir. 1990) (“agency’s interpretation . . . is ‘of controlling weight unless it is plainly erroneous or inconsistent with the regulation’ ”) (quoting *Bowles v. Seminole Rock Co.*, 325 U.S. 410, 414 (1945) (other citations omitted)). In determining whether a standard is plain or ambiguous, the “language of a regulation . . . is the starting point for its interpretation.” *Dyer*, 832 F.2d at 1066 (citing *Consumer Prod. Safety Comm’n v. GTE Sylvania, Inc.*, 447 U.S. 102, 108 (1980)).

I find that in the context of this case, the language of the cited health standard when read in conjunction with the Secretary’s definition of “respirable dust” is somewhat ambiguous. The Secretary’s position is that the standard clearly states that anything captured on the sampling filter with an approved sampling device that is smaller than ten microns in diameter is, by definition, respirable dust. The Secretary defines “respirable dust” as “*dust* collected with a sampling device approved by the Secretary. . . .” (emphasis added). Consequently, as discussed further below, particles collected on a sample filter must be “dust” in order to be “respirable dust.” The issue then is whether particles deposited on the sample filter from welding fumes can reasonably be construed to be “dust.”

Powder River’s principal argument is that welding fumes are not “dust,” as that term is commonly used in the industrial hygiene community. (Tr. 220-21). Powder River contends that in the absence of a specific regulatory definition, the ordinary meaning of the word “dust” as used by industrial hygiene professionals should be used. Powder River relies on definitions provided in specialized occupational safety and health materials, the testimony of its expert witness, and materials issued by MSHA officials.

Fumes generally consist of particles smaller than one micron. (Tr. 220-21, 226). They are generated in a different manner than dust because they are the product of a heating process. Fumes behave differently, acting more like a gas. (Ex. C-3). The Secretary offered a definition of fumes from a dictionary entitled *Occupational Safety and Health: Terms, Definitions, and Abbreviations* (“*Occupational Health Dictionary*”). (Ex. G-11). It defines fumes as “small, solid particles formed by the condensation of the vapors of solid materials.” In a publication entitled *Introduction to Operator Air Sampling Programs*, issued by the Health Division, Metal Nonmetal Mine Safety and Health, the term “fume” is defined as:

[A]n airborne particle formed in close proximity to a molten metal by vaporization of the metal, oxidation of the vapor, and condensation of the oxide. Fume particles usually assume rounded or smooth, irregular shapes and are generally one micron or smaller in size. Fumes may also agglomerate to form larger particles.

(Ex. C-13, p. 9).

Dust, on the other hand, is defined in the *Occupational Health Dictionary* as:

Small solid particles *created by* the break up of larger particles, such as by crushing, grinding, drilling, handling, detonation, impact, etc. Dusts in the industrial environment typically do not flocculate (join together) in air, but settle out under the influence of gravity.

(Ex. C-17) (emphasis added).<sup>1</sup> This definition is consistent with the definition of dust in MSHA's *Introduction to Operator Air Sampling Programs*. (Ex. C-13, p. 7). This definition states that "dust is a term used to describe airborne particles, ranging in size from 0.1 to 25 [microns], *created by* the crushing, grinding, breaking, drilling, or the general abrasive handling of solid material." (emphasis added).

These definitions make clear that dust and fumes have very different characteristics. Welding fumes are principally made up of metallic oxides, they are quite small, they are produced by heat, they are condensed vapors, and they agglomerate. Dust, including coal dust, is created by a physical process which breaks down solid material into small particles. Dust particles are coarse, irregularly shaped, and do not agglomerate. Dust and fumes behave differently in the pulmonary system, as well. (Tr. 222-27).

The Secretary has, over the years, published documents and provided instructions to coal mine operators that indicated that fumes are different from dust and should be sampled differently. For example, MSHA sent Michelle Shaper, an MSHA toxicologist, to give a presentation to coal mine operators in the Powder River Basin on the hazards presented by welding fumes. She emphasized the differences between fumes and dust. (Tr. 189-92). Until July 2006, the Secretary's Program Policy Manual ("PPM") contained the following language with reference to section 71.100:

This provision does not apply to airborne contaminants other than respirable coal mine dust. Exposures of surface shop welders (occupation code 319) to such contaminants as welding fumes, of which iron oxide is the main constituent, are governed by section 71.700.

(Ex. G-14). The language of this section was changed in 2006, but the purpose of this change is not entirely clear. It now states:

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<sup>1</sup> Exhibits C-17 and C-18 are hereby admitted into evidence. *Fundamentals of Industrial Hygiene*, published by the National Safety Council, draws a similar distinction between dusts and fumes. (Ex. C-18).

This provision applies to respirable dust as defined by 30 CFR 71.2(k) and collected in accordance with the requirements of 30 CFR part 71. Exposures to airborne contaminants as specified in 30 CFR 71.700 will be monitored through sampling specified by 30 CFR 71.701.

*Id.* As stated above, MSHA's *Introduction to Operator Air Sampling Programs* recognizes the differences between fumes and respirable dust.

Dr. Hall testified that, from an industrial hygiene point of view, the Secretary's interpretation that the term "dust" includes welding fumes is unreasonable. (Tr. 227). Dr. Hall is a certified industrial hygienist. I agree with Dr. Hall's assessment and I credit his testimony in this case. Although both welding fumes and dust contain solid particles, not all particles can be classified as dust. (Tr. 220-22). The evidence clearly establishes that welding fumes are not a type of dust and the Secretary's attempt to construe her regulations to include welding fumes within the definition of respirable dust is clearly erroneous. The Secretary's definition of "respirable dust" limits its application to dust particles and her own interpretive materials have drawn a distinction between dust and fumes.<sup>2</sup> I find that it is unreasonable to interpret the term "dust" in the subject regulations to include welding fumes.

It is important to understand that MSHA's health standard at section 71.700 covers welding fumes. This standard is much stricter than the respirable dust standard at issue here. In addition, all particles are included when testing for welding fumes, not just particles that are smaller than ten microns in diameter. The sampling is conducted inside the welding hood which more accurately reflects the miner's breathing zone. The welders at Powder River are regularly sampled under the protocol set forth in 71.701.

In conclusion, I find the Secretary's interpretation of her health regulations to be plainly erroneous, unreasonable, and inconsistent with the language and purposes of the standard. It is unreasonable for the Secretary to take the position that "respirable dust" includes any and all particles less than ten microns in diameter that are deposited on a sampling filter as long as the sample was taken with an approved device.

At the request of Powder River, the samples taken in February and December 2005 were tested for metallic elements. MSHA's laboratory analysis shows that a significant part of the weight gain for these samples is a result of welding fume particles. It can be reasonably assumed that the sample taken June 2005 also contained welding fume particles. This laboratory analysis did not indicate the full impact of welding fumes on the filter because it only measured metallic elements and did not include other non-metallic components of welding fumes.

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<sup>2</sup> The Secretary contends that materials published by MSHA's Metal Nonmetal Division do not apply to coal mines. I reject this argument with respect to discussions describing the characteristics of dust and fumes.

The evidence also establishes that the two welding shops were not near sources of coal dust. Most of the welding is performed in the shops, although welders will sometimes go to equipment in the field, especially welders working in the east shop. The sample taken on February 27, 2005, showed significant weight gain as a result of welding fumes. This sample was taken on a welder in the west shop who spent his day in the shop. (Tr. 184-85). The dust sample taken on December 18, 2005, was taken on a welder in the east shop. Since the temperature was about 20 degrees below zero that day, he spent the day in the shop. This sample also showed a large amount of welding fumes on the sample filter. Finally, the sample taken on September 26, 2006, was for a welder who spent his day welding in the shop on dragline rigging. (Tr. 185-87, 194). The other sample taken measured less than 2.0 mg/m<sup>3</sup>.

Other factors call in question the results in this case. Miners who are not welders have been sampled at the mine by inspectors and by the company and they have rarely been found to be overexposed to respirable coal dust. (Tr. 186-88; Ex. C-1 & C-2). Thus, it seems suspicious that welders, who primarily work a substantial distance from possible sources of respirable dust, are the miners who appear to be overexposed to respirable dust under section 71.100. In addition, the samples at issue here were taken outside of the welding hood so they do not necessarily reflect what the miner is breathing.

I find that the Secretary did not establish a violation of section 71.100 in this case. Although some of the samples appear to show an overexposure to respirable dust even after the results of the elemental analysis are subtracted out, I find that Powder River demonstrated that the sampling results were unreliable. It is clear that non-metallic elements contained in the welding fumes were not analyzed by MSHA. Dr. Hall testified that, by his calculations, the samples taken by MSHA were heavily contaminated by welding fumes and that the amount of respirable dust on the filters was more likely than not below the 2.0 threshold. (Tr. 214-20). His calculations throw sufficient doubt into the sampling results obtained by MSHA to make them unreliable. The Secretary bears the burden of proof and she did not meet this burden in this case.

My decision in this case is limited to the facts presented. I do not mean to imply that MSHA cannot sample welders for overexposure to respirable dust, including coal and silica dust. MSHA, however, cannot rely on samples that have been contaminated by welding fumes. MSHA may be able to improve its laboratory analysis so that the increase in the weight on the filter from welding fume particles can be subtracted out. MSHA may also be able to take respirable dust samples inside the welding hood when miners are welding to cut down on the contamination of the sample.<sup>3</sup>

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<sup>3</sup> Because I have vacated the citation for the reasons set forth above, I have not considered the other issues raised by Powder River at the hearing and in its brief.



## V. ORDER

For the reasons set forth above, Citation No. 7610237 is **VACATED** and these proceedings are **DISMISSED**.

Richard W. Manning  
Administrative Law Judge

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